



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,418	10/30/2003	Christian Fleischhacker	48924-01050	7218
34013	7590	11/12/2004	EXAMINER	
HOLME ROBERTS & OWEN, LLP			NGUYEN, MINH T	
299 SOUTH MAIN			ART UNIT	
SUITE 1800			PAPER NUMBER	
SALT LAKE CITY, UT 84111			2816	

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

92

<b>Office Action Summary</b>	<b>Application No.</b> 10/697,418	<b>Applicant(s)</b> FLEISCHHACKER ET AL.	
	<b>Examiner</b> Minh Nguyen	<b>Art Unit</b> 2816	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicants' response filed on 8/18/04 has been received and entered in the case. Claims 1-16 are pending. The amendment and argument presented therein overcome the informality objections and indefiniteness rejections, and therefore, are withdrawn. However, the prior art rejections are remained and repeated for the reasons set forth below. This action is FINAL.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,245,646, issued to Jackson et al.

As per claim 5, Jackson discloses a circuit arrangement for filtering an electrical signal (Figs. 1-3, the arrangement comprises a filter section shown in Fig. 3 and a control section shown in Fig. 1, i.e., Fig. 1 is the selecting circuit for selecting and tuning the frequency response of the active filter shown in Fig. 3), comprising:

an active filter (Fig. 3, active filter because the filter comprises op-amp) including at least one adjustable capacitor (42, adjustable by controlling switches 90-94) that determines frequency

Art Unit: 2816

response (the overall value of the capacitance of the capacitors determines the frequency response of the active filter 40);

a circuit to determine a measure of the frequency response (Fig. 1, circuits 12 and 14 and 18, column 3, lines 60-62, the changes from the nominal frequency response of the active filter are "measured" by the capacitor 26 and resistor 24 as compared to reference signals REF1, REF2 and REF3).

a memory arrangement (decoder 34, column 7, lines 2, i.e., the decoder 34 may be a memory) which stores a plurality of parameters (Fig. 2, the parameters are the controlling values for selecting the capacitance of the active filter shown in Fig. 1) for adjusting the at least one adjustable capacitor (the control signals B0-B4 from the decoder 34 are used to control switches 60-64 and 90-94 shown in Fig. 3 to adjust the capacitance of the active filter shown in Fig. 3); and

a control device (Fig. 1, the counter 32) to select a stored adjustment parameter depending on the determined measure of the frequency response and on a nominal frequency response fed to the circuit arrangement and to adjust the at least one adjustable capacitor on the basis the selected adjustment parameter (one of the stored adjustment parameters B0-B4, shown in Fig. 2, is selected by the control device counter 32; the control device 32 uses the determined measure fed by the comparator 30 and the nominal frequency response provided by the signal CLOCK).

As per claim 6, the recited invariable base capacitor reads on capacitor 84 which is invariable, and the recited an adjustable capacitor component reads on the switch 94 which is a

Art Unit: 2816

component used to control the invariable capacitor 84 so that the overall capacitance of the active filter is adjustable.

As per claim 7, the capacitors 80-84 and switches 90-94 clearly meet the recited limitations.

As per claim 8, Fig. 2 shows the recited limitation, labels "0" and "1" clearly represent digital values in binary form.

As per claim 9, the recited limitations are met since the truth table shown in Fig. 2 has five inputs and five outputs.

As per claim 10, resistors and capacitors in the active filter 40 shown in Fig. 3 indicate a time constant (i.e., time constant =  $RC$ ) as the frequency response.

As per claim 11, the truth table shown in Fig. 2 clearly shows the time constants are normalized, i.e., see Fig. 1, the counter using frequency of the clock signal CLOCK for normalization.

As per claim 13, the recited reference capacitor reads on the capacitor 26.

As per claim 14, by adjusting the capacitance value of the capacitors of the active filter shown in Fig. 3, there will be one value which is the same as the capacitance value of the capacitor 26.

As per claim 16, as shown in Fig. 3, each combination of switches B0-B4 provides a nominal frequency response for the active filter, the recited plurality of given nominal frequency responses reads on the number of combinations of switches B0-B4 shown in Fig. 2.

Art Unit: 2816

As per claim 1, this claim is merely a method to operate an active filter circuit having the structure recited in claim 5, since Jackson teaches the circuit, he inherently teaches the method to operate.

As per claims 2-4 and 15, these claims are rejected for the same reasons noted in claims 10, 11, 9 and 16, respectively.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,245,646, issued to Jackson et al.

Jackson discloses a circuit arrangement as discussed in claim 5 but he does not explicitly disclose the components of the circuit arrangement are integrated into a semiconductor as called for in the claim.

However, in column 2, lines 1-25 he explicitly discloses the disadvantages of using discrete components versus integrating the circuit into a semiconductor device.

It would have been obvious to one skilled in the art at the time of the invention was made to integrate the components of the Jackson circuit discussed in claim 5 to a semiconductor substrate for the motivation which is to avoid the disadvantages disclosed in column 2, lines 1-25 of the Jackson reference.

***Response to Arguments***

4. Applicant's arguments filed on 8/18/04 have been fully considered but they are not persuasive.

Regarding the argument that Jackson does not relate to filter characteristics of which may be chosen from a plurality of possible frequency responses, but to a filter with a fixed response which is tuned to compensate for process variations.

As discussed in the preceding rejection, a desired frequency response is set by setting the frequency of the clock signal CLOCK (see column 4, equation 2), the output of the counter 32, which is determined by the frequency of the CLOCK signal, provides the location where to select from a list of the given nominal frequency responses shown in Fig. 2. Each combination of switches B0-B4 shown in Fig. 3 provides a unique nominal frequency response for the active filter, the recited plurality of given nominal frequency responses are the number of combinations of switches B0-B4 shown in Fig. 2. In other words, the Jackson's circuit has the capability of selecting a nominal frequency response fed to the circuit arrangement (using CLOCK signal) and it further has the capability of fine tuning the selected nominal frequency response.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2816

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Nguyen whose telephone number is **571-272-1748**. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



11/5/04

Minh Nguyen  
Primary Examiner  
Art Unit 2816